

Our Case No. 11927/90

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of:	)	
	)	
David J. Schmitz, et al.	)	
	)	Examiner: Frantzy Poinvil
Serial No.: 09/896,061	)	
	)	Group Art Unit No.: 3692
Filing Date: June 29, 2001	)	
	)	
For: Automated Execution System	)	
Having Participation	)	

**APPEAL BRIEF**

Mail Stop Appeal Brief - Patents  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sirs:

This Appeal Brief is filed based on the final rejection of all pending claims mailed on September 7, 2007, and further to the Notice of Panel Decision from Pre-Appeal Brief Review mailed March 5, 2008.

**I. Real Party in Interest**

The real party in interest for the above-referenced application is Chicago Board Options Exchange, Incorporated, whose address is 400 South LaSalle Street, 7th Floor, Chicago, Illinois 60605.

**II. Related Appeals and Interferences**

The undersigned is unaware of any other appeals or interferences that will directly affect, be directly affected by or have any bearing on the Board's decision in the pending appeal.

**III. Status of Claims**

Claims 2 and 4-5 are canceled.

Claims 1, 3 and 6-23 are pending and stand finally rejected.

All of finally rejected claims 1, 3 and 6-23 are appealed.

**IV. Status of Amendments**

No amendments are pending.

**V. Summary of Claimed Subject Matter**

Appellants' invention relates to an automated trade execution system and method for trading financial products such as securities, commodities or derivatives (p.1, lines 4-5).

In each of the claimed embodiments, the automated trade execution system or method includes a participation component, *inter alia*, automatically executing in order priority at least a portion of the electronic order against an order in an electronic book as recited in each of the independent claims and executing a remaining portion of the electronic order against a participant at a predetermined participation percentage as recited in independent claims 1, 10, 17 and 21. Each of the independent claims recites a different variation of this allocation to a participant.

### Claim 1

Claim 1 relates to a method of trading products over an automated execution system. An electronic order (FIGS. 1-2, item 104) is received for a product submitted by a participant (page 7, lines 1-6) into the automated execution system (FIGS. 1-2, item 112). The automated execution system includes a book process subsystem (FIGS. 1-2, item 116), a firm participation subsystem (FIGS. 1-2, item 118) and a market maker subsystem (page 8, lines 12-18; FIGS. 1-2, item 120). An initial portion of the electronic order is automatically executed against a stored order in the book process subsystem (See page 7, line 17 – page 8, line 13; page 9, lines 9-18; FIGS. 3A-3B, steps 212, 216).

A first remaining portion of the electronic order is automatically routed to the firm participation subsystem, where a percentage of the first remaining portion of the electronic order is assigned by the automated execution system and executed against the participant (See page 10, lines 3-16; FIG. 3B, steps 224, 228). Any remaining portion of the electronic order is automatically routed to the market maker subsystem, where it is executed against another participant (See page 10, line 18; FIG. 3B, step 236).

### Claim 10

Claim 10 relates to a computer-implemented method of providing participation in an automated execution system. An electronic order is automatically routed for an option contract submitted by a participant into the automated execution system over a computer network (page 12, lines 1-10; FIG. 2, items 100, 104, 108, 140, 144). The electronic order is received over the computer network, wherein the electronic order is further automatically routed to a book process subsystem (page 13, line 6-13). The electronic order is automatically executed in order priority against a book order irrespective of broker review (page 9, lines 9-14; page 20, lines 11-16). A first remaining portion of the electronic order is automatically assigned to the participant (page 14, lines 4-14; FIG. 3B; page 20, lines 14-18).

#### Claim 17

Claim 17 also relates to a method of executing an electronic order over an automated execution system. An electronic order is received from a firm participant (page 13, lines 3-7; FIGS 3A-3B, step 200). At least a portion of the electronic order is automatically executed in order priority against an order in an electronic book at a prevailing market price irrespective of broker review (page 13, line 14 – page 14, line 2; FIGS. 3A-3B, steps 212, 216). A predetermined first remaining portion automatically executes against the firm participant (page 14, lines 6-15; FIGS. 3A-3B, steps 224, 228). Also, a second remaining portion of the electronic order automatically executes against one or more market makers (page 14, line 17 – page 15, line 3; FIGS. 3A-3B, step 236).

#### Claim 21

Claim 21 recites an automated execution system for trading products. The system includes an order routing system for automatically routing an electronic order for a product submitted by a firm participant to the automated execution system (page 6, lines 15-20; FIG. 1, item 108). A book process subsystem (FIGS. 1-2, item 116) is also included for automatically allocating in order priority at least a portion of the electronic order against an electronic book at a prevailing market price irrespective of broker review (page 9, lines 9-18). The system further includes a firm participation subsystem (FIGS. 1-2, item 118) for automatically determining if the participant is participating in the electronic order (page 14, lines 6-9) and, if so, automatically allocating a predetermined percentage of a contra-side of a remaining portion of the electronic order to the firm participant irrespective of broker review (page 10, lines 12-18).

## **VI. Grounds of Rejection to be Reviewed on Appeal**

There is one ground of rejection presented for review: whether claims 1, 3 and 6-23 are unpatentable under 35 U.S.C. §103(a) over Lupien et al. (US 5,101,353).

## **VII. Argument**

### **A. Summary**

Appellant submits that the pending rejection fails 1) to cite references teaching or suggesting all of the claimed features; or 2) to meet the requirement of adequately showing a teaching or suggestion to arrive at the claimed features using the cited reference.

Appellant submits that the rejection of claims 1, 3 and 6-23 under 35 U.S.C. §103(a) over Lupien et al. (hereinafter "Lupien") should be withdrawn.

### **B. The Statutory Standard**

35 U.S.C. § 103(a) provides that an invention is not patentable:

if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art.

The test for obviousness is well known. The obviousness inquiry requires:

- (1) an inquiry into the scope and content of the prior art;
- (2) identification of the differences between the prior art and the claimed invention;
- (3) determination of the level of ordinary skill in the art at the time of the invention; and
- (4) consideration of objective evidence of secondary considerations indication non-obviousness.

*Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966). The PTO has the burden of establishing a prima facie case of obviousness. *In re Fine*, 837 F.2d 1071, 1074 (Fed. Cir. 1988).

To satisfy this burden, the proposed combination of prior art must show each element of the claimed invention. In addition, the Examiner must show some objective teaching in the prior art to suggest the combination, or explain how one of ordinary skill in the art would be motivated to combine the relevant teachings. See *Id.* A proposed modification of a prior art reference is inappropriate for an obviousness inquiry when the modification renders the prior art reference inoperable for its intended purpose. *In re Gordon*, 733 F.2d 900 (Fed. Cir. 1984).

#### **Claim 1 and its dependent claims 3 and 6-9**

Claim 1 recites a method of trading in an automated execution system. An initial portion of an electronic order submitted by a participant is automatically executed against an order in an electronic book. A first remaining portion of the electronic order is routed to a firm participation system where a percentage of the electronic order submitted by the participant is assigned to and executed against that participant. A second remaining portion of the electronic order, if any, is routed to the market maker subsystem, and the second remaining portion of the electronic order is executed against another participant.

Lupien fails to teach or suggest at least routing a first remaining portion of an order to the participant who submitted the order and then automatically executing a percentage of the first portion against that participant. Lupien teaches away from these steps. As seen in Lupien, for example at Col. 14, lines 32-36, the remainder left over (i.e., the unexecuted portion of an electronic order) after a partially executed order is held (if the order is partially executed) or merged with previously split orders (if a partially matched order is rejected). No automated routing to the participant who submitted the order is taught or suggested, nor is it taught or suggested that such a remaining portion of an order be assigned to, and executed against, that participant. Thus, Lupien not only

fails to teach routing a remaining portion of an order to a market participant, let alone routing a remaining portion of a partially executed order to the participant who had sent in the order, it teaches away from such automated routing and execution to particular participants by: (1) holding onto that remaining portion of the order for later execution and/or (2) merging previously split orders if a match is rejected.

In the Final Office Action dated September 7, 2007 ("Final OA"), the Examiner clearly acknowledges the lack of teaching of features in claim 1 (see Final OA, page 3 last paragraph). Instead of providing evidence of the claimed method, the Examiner asserts that, because Lupien discloses an system that assigns orders on price/time or price/size/time parameters, the features of claim 1 don't need to be shown or explained because they are merely "an agreement within a trading firm or company" and "as such, any agreement among these different entities would have been possible . . . ." (Final OA, p.4). Appellants are unfamiliar with the "anything is possible" argument posited in the Final OA. Appellants submit that the specific method steps of claim 1 are not shown or suggested in the prior art provided by the Examiner and that only impermissible hindsight and conjecture has been used to come up with the specific claimed features of claim 1.

The recited elements of claim 1 allow a market participant who sends in an order to participate in the order flow, thus providing an incentive to the market participant to submit orders to the automated execution system. This incentive is provided by the automated execution system itself, and not an individual broker's or trading company's proprietary system. Lupien not only fails to teach or suggest features such as the automatic routing and executing of a percentage of a remainder of an order to the participant that submitted the order, it cannot do so because it is a system for use by investment managers to communicate with various automated trading systems, and is not an automated trading system itself (See, e.g., Lupien, Col. 2, lines 60-62; Col. 3, lines 9-14 and 37-45). Instead, Lupien discloses a system that can be used in connection with exchanges and markets for the purpose of transmitting order and transaction information to those

exchanges and markets, rather than for allocating orders received at an exchange (See Col. 6, lines 60-66). For at least the reasons set forth, Appellants submit that claim 1 is allowable of the cited art.

#### **Claim 10 and its dependent claims 11-16**

As with claim 1, claim 10 is a method claim. Claim 10 recites a computer-implemented method of providing participation in an automated execution system. The method includes, *inter alia*, automatically executing in order priority the electronic order against a book order irrespective of broker review; and automatically assigning a first remaining portion of the electronic order to the participant (that submitted the order). The Examiner provides the same single reference obviousness argument for claim 10 as for claim 1, relying on the same "would have been possible" argument to create features missing from Lupien such as the automatic assignment of a first remaining portion of the electronic order submitted by a participant to that participant. Appellants note that Lupine states that "that portion of the invention which analyzes price and determines orders is operated by a registered investment adviser." (Lupien, Col. 11, lines 42-44). Accordingly, in addition to the reasoning provided for claim 1 above, Appellants submit that Lupien further teaches away from an automatic assignment of a first remaining portion of a participant's order to the participant.

#### **Claim 17 and its dependent claims 18-20**

As with claim 1 and 10, claim 17 is a method claim. Claim 17 recites receiving the electronic order from a firm participant, automatically executing in order priority at least a portion of the electronic order against an order in an electronic book at a prevailing market price irrespective of broker review, automatically executing a predetermined first remaining portion of the electronic order against the firm participant and automatically executing a second remaining portion of the electronic order against one or more market makers.

The Examiner provides the same single reference obviousness argument



for claim 17 as for claims 1 and 10. Appellants submit that Lupien lacks any teaching or suggestion of at least the steps of automatically executing a predetermined first remaining portion of the electronic order against the firm participant (who submitted the electronic order) or automatically executing a second remaining portion of the electronic order against one or more market makers. Lupien lacks the teaching or suggestion, as noted above with respect to claim 1, of automatic execution of a remainder of an order that traded against the electronic book with the party submitting the order. In addition, Lupien lacks any teaching or suggestion of automatically executing a second remaining portion of that order against one or more market makers. The passage in Lupien cited by the Examiner (Lupien Col. 14, lines 30-36) regarding the need to split up an order for which the contra side is not large enough to trade against the entire order is unrelated to how much of the order should be sent to what participants as the features of claim 17 relate to regarding the first and second remaining portions.

Accordingly, Appellants submit that Lupien lacks at least the features of claim 17 relating to the execution of the first and second remaining portions. Appellants further submit that the general disclosure in Lupien of a system that can manage submission of orders to an exchange based on priority, size or price cannot teach or suggest the particular features of claim 17.

### **Claim 21 and its dependent claims 22-23**

Claim 21 relates to an automated execution system for trading products. The system includes, *inter alia*, a firm participation subsystem for automatically determining if the participant is participating in the electronic order and, if so, automatically allocating a predetermined percentage of a contra-side of a remaining portion of the electronic order to the firm participant irrespective of broker review.

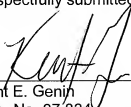
In the Final Office Action, the same arguments recited by the Examiner for independent method claims 1, 10 and 17 were indicated as relevant to system claim 21. According, Appellants submit that the reasoning provided above for

method claims 1, 10 and 17 with respect to the lack of teaching of the feature relating to allocating a remainder of an electronic order to the participant submitting the order also applies to the firm participation subsystem recited in claim 21. The firm participation subsystem in claim 21 is also arranged to automatically determine if the participant is participating in the order. Because Lupien admittedly provides no teaching of a system that automatically allocates a remainder portion of an order submitted by a participant to that participant, Lupien also lacks the feature of determining whether the participant will be participating in the order. For at least these reasons, Appellants submit that claim 21 is allowable over the cited art.

## CONCLUSION

Because Lupien lacks a teaching or suggestion of the features claimed in claims 1, 3 and 6-23, Appellants submit that these claims are allowable over the cited art. Appellants respectfully submit that the outstanding rejection of the claims on obviousness grounds is in error and should be reversed.

Respectfully submitted,



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## **VIII. Claims Appendix**

1. A method of trading products over an automated execution system, comprising:

receiving an electronic order for a product submitted by a participant into the automated execution system, the automated execution system having a book process subsystem, a firm participation subsystem and a market maker subsystem;

automatically executing an initial portion of the electronic order against a stored order in the book process subsystem;

automatically routing a first remaining portion of the electronic order to the firm participation subsystem, wherein a percentage of the first remaining portion of the electronic order is assigned by the automated execution system and executed against the participant; and

automatically routing a second remaining portion of the electronic order, if any, to the market maker subsystem, wherein the second remaining portion of the electronic order is executed against another participant.

3. The method of claim 1 wherein receiving an electronic order further comprises forwarding the electronic order over a computer network system from an order routing system.

6. The method of claim 1 wherein the product comprises a security, derivative, or commodity having at least one sell order.

7. The method of claim 1 wherein the product comprises a security, derivative, or commodity having at least one buy order.

8. The method of claim 1 wherein the product is at least one unit of a security, derivative, or commodity.

9. The method of claim 1 wherein the participant submits the electronic order for a customer, and wherein the customer is assured to receive the National Best Bid or Offer for the electronic order.

10. A computer-implemented method of providing participation in an automated execution system, comprising:

automatically routing an electronic order for an option contract submitted by a participant into the automated execution system over a computer network;

receiving the electronic order over the computer network, wherein the electronic order is further automatically routed to a book process subsystem;

automatically executing in order priority the electronic order against a book order irrespective of broker review; and

automatically assigning a first remaining portion of the electronic order to the participant.

11. The method of claim 10 further comprising:

executing a second remaining portion of the electronic order wherein the second remaining portion of the electronic order is executed against a market maker subsystem.

12. The method of claim 10 wherein the step of routing an electronic order comprises entering the electronic order into a user device.

13. The method of claim 10 wherein the step of receiving the electronic order over the computer network comprises receiving the electronic order at a trading facility.

14. The method of claim 10 wherein the step of automatically executing in order priority the electronic order against a book irrespective of broker review

comprises attempting to match the electronic order against an order resting in a book.

15. The method of claim 10 wherein the step of assigning a first remaining portion of the electronic order to the participant comprises executing the first remaining portion of the electronic order according to a predetermined firm participation percentage.

16. The method of claim 10 wherein the participant submits the electronic order for a customer, and wherein the customer receives the National Best Bid or Offer for the electronic order.

17. A method of executing an electronic order over an automated execution system, the method comprising:

receiving the electronic order from a firm participant;

automatically executing in order priority at least a portion of the electronic order against an order in an electronic book at a prevailing market price irrespective of broker review;

automatically executing a predetermined first remaining portion of the electronic order against the firm participant; and

automatically executing a second remaining portion of the electronic order against one or more market makers.

18. The method of claim 17 wherein automatically executing a predetermined portion of the electronic order against the firm participant comprises the participant taking the contra-side to its own customer order.

19. The method of claim 17 wherein the predetermined portion of the electronic order is in a range of 0 to 100% of the electronic order.

20. The method of claim 17 wherein the market makers comprise market makers, specialists, and designated primary market makers (DPMs).

21. An automated execution system for trading products, the system comprising:

an order routing system for automatically routing an electronic order for a product submitted by a firm participant to the automated execution system;

a book process subsystem for automatically allocating in order priority at least a portion of the electronic order against an electronic book at a prevailing market price irrespective of broker review; and

a firm participation subsystem for automatically determining if the participant is participating in the electronic order and, if so, automatically allocating a predetermined percentage of a contra-side of a remaining portion of the electronic order to the firm participant irrespective of broker review.

22. The system of claim 21 wherein the order routing system creates a fill report when the electronic order is filled.

23. The system of claim 21 wherein the product is at least one security, commodity, or derivative.

**IX. EVIDENCE APPENDIX**

None

**X. RELATED PROCEEDINGS APPENDIX**

None